comparing adjacent fields in one of said two or three signal streams in order to detect motion,

generating even and odd interpolated fields from fields in said two or three signal streams,

deriving a further signal stream from said two or three signal streams and said interpolated fields by alternately selecting even and odd fields from among said two or three signal streams and interpolated fields when motion is detected, and

deriving yet a further signal stream from said two or three signal streams and interpolated fields by alternately selecting, from said two or three signal streams and said interpolated fields, a field of opposite parity to the field selected for said further signal stream when motion is detected, and

after increasing the field rate, increasing the number of lines in each field of the derived television signal with respect to the number of lines in each field of the original television signal, such that the increase in lines reduces perceived line structure in the derived television signal,

wherein the increase in the field rate and the increase in the number of lines in the derived television signal results in a horizontal scanning rate that does not substantially exceed twice the horizontal scanning rate of the original television signal while minimizing undesirable motion artifacts.

Remarks

Claims 1-21 were rejected under 35 USC 112 (¶2) in view of the "such as" phrase in the preamble of claim 1. Claim 1 was rejected as being anticipated by any one of Songer, Weston et al, or Furuhata et al. The indication that claims 2-21 are allowable if rewritten in independent form is noted with appreciation.

Claim 1 has been cancelled. Claims 2, 4, 9 (as dependent on claim 1), and 12-14 have been rewritten in independent form as new claims 22-27, respectively. As rewritten, claims 22-27 omit the "such as" phrase, thus obviating the 35 USC 112 rejection. The dependencies of dependent claims 3, 5, 6, 9-11, 15, 16, 19 and 21 have been amended.

An Abstract of the Disclosure is being submitted on a separate sheet.

A clean copy of all the now pending claims, as amended, is attached.

In view of the present amendments, the application is believed to be in condition for allowance. In the event that the Examiner may find any additional issues, he is invited to telephone the undersigned attorney.

Respectfully submitted,

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Certificate of Mailing Under 37 CFR 1.8

I certify that this Response to Office Action and any enclosed materials are being deposited with the United States Postal Service on December 13, 2002 as "Express Mail," mailing label EL680123736US, in an envelope addressed to Commissioner for Patents, Box Non-Fee Amendment, Washington, DC 20231.

Karen M. Strange

Enc.

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3. The method of claim ~~22~~ 1 wherein the frame rate is increased to nominally 75 Hz and said reinterlacing drops every fourth reinterlaced field.

4 (once amended) ~~8~~. The method of any one of claims ~~22~~ 1 or ~~23~~ 2 wherein the frame rate is increased to nominally 75 Hz.

1 (once amended) ~~8~~. The method of claim ~~23~~ 2 wherein the frame rate is increased to nominally 75 Hz and said reinterlacing drops every fourth reinterlaced field.

5 (1st amended) ~~7~~. The method of claim ~~5~~ 4 wherein the line rate is increased to an odd number of lines in the range of 821 to 839 lines.

6 (1st amended) ~~8~~. The method of claim ~~7~~ 5 wherein the line rate is increased to 825 lines.

a1

8 (once amended) ~~9~~. The method of any one of claims ~~22~~ 1 or ~~23~~ 2 wherein the line rate is increased to an odd number of lines in the range of 821 to 839 lines.

B 11 (once amended) ~~10~~. The method of ~~claims 9 or~~ claim ~~24~~ 10 wherein the line rate is increased to 825 lines.

9 (once amended) ~~11~~. The method of any one of claims ~~22~~ 1 or ~~23~~ 2 wherein the frame rate is increased to nominally 100 Hz.

(once amended) 15. The method of any one of claims ~~25~~ 12, ~~26~~ 13 or ~~27~~ 14 wherein said increasing the number of lines in each field of the derived television signal with respect to the number of lines in each field of the original television signal comprises:

combining said further signal stream with portions of said yet further signal stream.

(once amended) 12 13 14

16. The method of any one of claims ~~25~~, ~~26~~ or ~~27~~ wherein n is three and the field rate is increased to nominally 75 Hz.

(unamended)

17. The method of claim 16 wherein the line rate is increased to an odd number of lines in the range of 821 to 839 lines.

(unamended)

18. The method of claim 17 wherein the line rate is increased to 825 lines.

(once amended) 12 13 14

19. The method of any one of claims ~~25~~, ~~26~~ or ~~27~~ wherein the line rate is increased to an odd number of lines in the range of 821 to 839 lines.

(unamended)

20. The method of claim 19 wherein the line rate is increased to 825 lines.

(once amended) 12 13 14

21. The method of any one of claims ~~25~~, ~~26~~ or ~~27~~ wherein n is four and the field rate is increased to nominally 100 Hz.

(new)

~~22~~. A method for deriving an interlaced television signal from an interlaced 625 line, nominally 50 Hz field rate television signal, the derived television signal having perceived reduced line structure and perceived reduced flicker, comprising

increasing the number of lines in each field of the derived television signal with respect to the number of lines in each field of the original television signal, such that the increase in lines reduces perceived line structure in the derived television signal, said increasing the number of lines comprising

de-interlacing the original television signal to produce a progressively scanned 625 line, nominally 50 Hz frame rate television signal, and

increasing the number of lines in each frame of the progressively scanned television signal, and

after increasing the number of lines in each field, increasing the field rate of the derived television signal with respect to the field rate of the original television signal, such that the increase in field rate reduces perceived flicker in the derived television signal, said increasing the field rate comprising

reinterlacing the progressively scanned television signal such that for some progressively scanned frames a pair of interlaced fields are derived and for selected progressively scanned frames only one interlaced field is derived, whereby selected ones of the potential interlaced fields are dropped,

wherein the increase in the field rate and the increase in the number of lines in the derived television signal results in a horizontal scanning rate that does not substantially exceed twice the horizontal scanning rate of the original television signal while minimizing undesirable motion artifacts.

2 (new)

~~23~~. A method for deriving an interlaced television signal from an interlaced 625 line, nominally 50 Hz field rate television signal, the derived television signal having perceived reduced line structure and perceived reduced flicker, comprising,

increasing the number of lines in each field of the derived television signal with respect to the number of lines in each field of the original television signal, such that the increase in lines reduces perceived line structure in the derived television signal, wherein said increasing the number of lines comprises

Q24 Cont.

increasing the number of lines in each frame of the original television signal, and

de-interlacing the line-increased original television signal to produce a progressively scanned 625 line, nominally 50 Hz frame rate television signal, and

after increasing the number of lines in each field, increasing the field rate of the derived television signal with respect to the field rate of the original television signal, such that the increase in field rate reduces perceived flicker in the derived television signal, wherein said increasing the field rate comprises

reinterlacing the progressively scanned television signal such that for some progressively scanned frames a pair of interlaced fields are derived and for selected progressively scanned frames only one interlaced field is derived, whereby selected ones of the potential interlaced fields are dropped,

wherein the increase in the field rate and the increase in the number of lines in the derived television signal results in a horizontal scanning rate that does not substantially exceed twice the

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horizontal scanning rate of the original television signal while minimizing undesirable motion artifacts.

10 (new)
24. A method for deriving an interlaced television signal from an interlaced 625 line, nominally 50 Hz field rate television signal, the derived television signal having perceived reduced line structure and perceived reduced flicker, comprising, in either order,

increasing the field rate of the derived television signal with respect to the field rate of the original television signal, such that the increase in field rate reduces perceived flicker in the derived television signal, and

increasing the number of lines in each field of the derived television signal with respect to the number of lines in each field of the original television signal, wherein the line rate is increased to an odd number of lines in the range of 821 to 839 lines, such that the increase in lines reduces perceived line structure in the derived television signal,

wherein the increase in the field rate and the increase in the number of lines in the derived television signal results in a horizontal scanning rate that does not substantially exceed twice the horizontal scanning rate of the original television signal while minimizing undesirable motion artifacts.

A2 cont.

12 (new)
25. A method for deriving an interlaced television signal from an interlaced 625 line, nominally 50 Hz field rate television signal, the derived television signal having perceived reduced line structure and perceived reduced flicker, comprising,

increasing the field rate of the derived television signal with respect to the field rate of the original television signal, such that the increase in field rate reduces perceived flicker in the derived television signal, said increasing the field rate comprising

> deriving two or three signal streams from said original television signal, each of said signal streams comprising a pattern of n repeated time-compressed fields, each of said signal streams having a field rate substantially equal to said increased field rate, all of fields in a signal stream being of the same parity, at least one signal stream consisting of even parity fields, each field in a signal stream being substantially identical in information content to each consecutive field of the same parity in the original television signal,

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deriving a further signal stream from said two or three signal streams by alternately selecting even and odd fields from said two or three signal streams, and

deriving yet a further signal stream from said two or three signal streams by alternately selecting, from said two or three signal streams, a field of opposite parity to the field selected for said further signal stream, and

after increasing the field rate, increasing the number of lines in each field of the derived television signal with respect to the number of lines in each field of the original television signal, such that the increase in lines reduces perceived line structure in the derived television signal,

wherein the increase in the field rate and the increase in the number of lines in the derived television signal results in a horizontal scanning rate that does not substantially exceed twice the horizontal scanning rate of the original television signal while minimizing undesirable motion artifacts.

Q2 cont.

13 (new)

~~26.~~ A method for deriving an interlaced television signal from an interlaced 625 line, nominally 50 Hz field rate television signal, the derived television signal having perceived reduced line structure and perceived reduced flicker, comprising,

increasing the field rate of the derived television signal with respect to the field rate of the original television signal, such that the increase in field rate reduces perceived flicker in the derived television signal, said increasing the field rate comprising

deriving two or three signal streams from said original television signal, each of said signal streams comprising a pattern of n repeated time-compressed fields, each of said signal streams having a field rate substantially equal to said increased field rate, all of fields in a signal stream being of the same parity, at least one signal stream consisting of even parity fields, each field in a signal stream being substantially identical in information content to each consecutive field of the same parity in the original television signal,

comparing two of said two or three signal streams in order to detect a film pattern,

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deriving a further signal stream from said two or three signal streams by alternately selecting even and odd fields from said two or three signal streams when a film pattern is detected, and

deriving yet a further signal stream from said two or three signal streams by alternately selecting, from said two or three signal streams, a field of opposite parity to the field selected for said further signal stream when a film pattern is detected, and

after increasing the field rate, increasing the number of lines in each field of the derived television signal with respect to the number of lines in each field of the original television signal, such that the increase in lines reduces perceived line structure in the derived television signal,

wherein the increase in the field rate and the increase in the number of lines in the derived television signal results in a horizontal scanning rate that does not substantially exceed twice the horizontal scanning rate of the original television signal while minimizing undesirable motion artifacts.

14 (new)

27. A method for deriving an interlaced television signal from an interlaced 625 line, nominally 50 Hz field rate television signal, the derived television signal having perceived reduced line structure and perceived reduced flicker, comprising,

increasing the field rate of the derived television signal with respect to the field rate of the original television signal, such that the increase in field rate reduces perceived flicker in the derived television signal, said increasing the field rate comprising

deriving two or three signal streams from said original television signal, each of said signal streams comprising a pattern of n repeated time-compressed fields, each of said signal streams having a field rate substantially equal to said increased field rate, all of fields in a signal stream being of the same parity, at least one signal stream consisting of even parity fields, each field in a signal stream being substantially identical in information content to each consecutive field of the same parity in the original television signal,

comparing adjacent fields in one of said two or three signal streams in order to detect motion,

generating even and odd interpolated fields from fields in said two or three signal streams,

deriving a further signal stream from said two or three signal streams and said interpolated fields by alternately selecting even and odd fields from among said two or three signal streams and interpolated fields when motion is detected, and

deriving yet a further signal stream from said two or three signal streams and interpolated fields by alternately selecting, from said two or three signal streams and said interpolated fields, a field of opposite parity to the field selected for said further signal stream when motion is detected, and

after increasing the field rate, increasing the number of lines in each field of the derived television signal with respect to the number of lines in each field of the original television signal, such that the increase in lines reduces perceived line structure in the derived television signal,

wherein the increase in the field rate and the increase in the number of lines in the derived television signal results in a horizontal scanning rate that does not substantially exceed twice the horizontal scanning rate of the original television signal while minimizing undesirable motion artifacts.